

The sound to which the Grouse gave instant and invariable attention was the alarm note of the Blue Jay. To the scolding of Robins and even to the cawing of Crows he turned a deaf ear, but the protesting voice of a Jay hushed the sound of the drum note, and a period of silent waiting ensued, during which interval he was evidently at some pains to discover the cause of the Jay's displeasure.

There was a time, when the spring drumming of the Grouse thundered from a hundred hills, woke the echoes like the throbbing tom-toms of tribes upon the war-path and sent the blood sap pulsing quicker along the veins; but laws are useless where they are not enforced, and unless the Ruffed Grouse is given a greater measure of protection, the woods will no longer hear his footfall that might for years have thrilled to the vigorous ardor of his wings.

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“THE SINGING TREE,” OR HOW NEAR TO THE NEST  
DO THE MALE BIRDS SING?<sup>1</sup>

BY H. MOUSLEY.

My attention was first drawn to this interesting subject by my inability to find the nesting sites of warblers, although regarding other species I was more than ordinarily successful. I must admit I was discouraged but not surprised, for to find the nests of these interesting little gems has always been more or less of a gamble to the students of the family *Mniotiltidæ*. Of course there are red letter days when by accident one sees a female with building material fly direct to the nesting site, but these are generally few and far between, and in my experience one hardly ever sees the females until the nests are discovered. It is the males that are always in evidence, not only during the nesting season, but also at migration times, and I can well remember the day when the

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<sup>1</sup> Read before the Nuttall Ornithological Club by Dr. Chas. W. Townsend for the Author, Oct. 21, 1918.

idea first occurred to me of paying special attention to them, and ceasing to worry about the females, which as I have already remarked one rarely sees, as compared with the other sex.

With this object in view, I repaired one day to a favorite wood, on the outskirts of which I located a male Myrtle Warbler (*Dendroica coronata*) singing from the top of an ash tree. This bird I determined to keep in view, and follow about wherever he went, a thing much easier to carry out in theory than in practice as a rule, although this particular bird was more than kind, and gave me very little trouble. After watching and following him about for some time, I found that he generally ended by coming back to the ash tree, from which he always sang. Seeing that this was the case I gave up following him about, and remained in the immediate neighborhood of this tree, where soon afterwards I had the satisfaction of seeing him make a sudden dart from the top of it into a nearby spruce, and there I found the female and her nest, and at the same time learnt the secret which has since enabled me to add many a rare warbler to my breeding list. Do not imagine however, kind reader, that in that one morning I had found the perfect system by which all gamblers hope some day or other to 'break the bank.' More often than not the bank breaks the gamblers, and no system seems to hold good for long. With mine, however, the case has been different, for the longer I have studied the ways of the male birds at nesting time, the more I have been able to perfect my system, and instead of the birds beating me, I am gradually getting the better of them, although to do so I have had to display more than the patience of Job, and have often had to remain with them for hours at a time before obtaining their secret. For the perfect working of my system, however, there is one thing essential and that is a singing male, the lack of which lost me a great prize only this summer (1918), for having located a pair of Cape May Warblers (*Dendroica tigrina*) in a certain large wood from June 11 to 26, I failed to find the nesting site, as the male could never be found singing. I would come across him (only once with the female) often in a certain area of the wood, but he always managed to give me the slip after a time, and his failure to sing never enabled me to follow him up. Not so however with a male Bay-breasted Warbler (*Dendroica castanea*) that I came across about the same

time and also in this same wood, for his persistent singing from the top of a particular birch tree eventually enabled me to locate the nest and eggs, as I shall relate hereafter. Neither of these Warblers had been observed here during the breeding season, but I was familiar with them at migration times, when the former has always struck me as being somewhat of a mute species.

However, to return to the Myrtle Warbler (*Dendroica coronata*), after finding its nest I measured the distance of the latter from the ash or 'singing tree,' and found it to be twenty-one yards. I did this at the time (and have continued it ever since) more from habit, than with any preconceived idea in my mind that it was going to be of material benefit to me hereafter, or that it would eventually enable me to answer with some degree of confidence, the question (which I have adopted as the title of this paper) recently sprung upon me in a letter from one of my most valued friends, viz: How near to the nests do the male birds generally sing?

To this question I replied that in my experience if a male bird could be found singing constantly in the same tree or trees, the nest would generally be found within twenty yards of the spot, in support of which I have prepared the following table, from which the average distance of the nest from the 'singing tree' or observation post of the male, for a number of birds works out at rather less than twenty yards, or to be precise seventeen yards.

| Year | Species                | Distance of nest from 'singing tree' or observation posts of male |
|------|------------------------|-------------------------------------------------------------------|
| 1911 | Yellow Warbler         | 8 yards                                                           |
| 1912 | Maryland Yellow-throat | 4                                                                 |
| "    | " " "                  | 8                                                                 |
| "    | Kingbird               | 8                                                                 |
| "    | Catbird                | 20                                                                |
| 1914 | Maryland Yellow-throat | 10                                                                |
| "    | Spotted Sandpiper      | 8                                                                 |
| 1915 | " "                    | 14                                                                |
| "    | Prairie Horned Lark    | 32                                                                |
| "    | " " "                  | 34                                                                |
| "    | " " "                  | 21                                                                |

| Year | Species                      | Distance of nests from 'singing tree' or observation posts of male |
|------|------------------------------|--------------------------------------------------------------------|
| 1915 | Phœbe                        | 5                                                                  |
| "    | Robin                        | 8                                                                  |
| "    | White-throated Sparrow       | 10                                                                 |
| "    | Northern Parula Warbler      | 12                                                                 |
| "    | " " "                        | 7 and 9                                                            |
| "    | Myrtle Warbler               | 21                                                                 |
| "    | " "                          | 25                                                                 |
| "    | " "                          | 6                                                                  |
| 1916 | Black-throated Blue Warbler  | 100                                                                |
| 1917 | Nashville Warbler            | 8                                                                  |
| "    | Myrtle Warbler               | 24                                                                 |
| "    | Blackburnian Warbler         | 10 and 18                                                          |
| "    | Bobolink                     | 25                                                                 |
| 1918 | Northern Parula Warbler      | 26                                                                 |
| "    | Magnolia Warbler             | 18                                                                 |
| "    | Blackburnian Warbler         | 18                                                                 |
| "    | Purple Finch                 | 4                                                                  |
| "    | Canada Warbler               | 15                                                                 |
| "    | Chestnut-sided Warbler       | 20                                                                 |
| "    | Black-throated Blue Warbler  | 50 and 90                                                          |
| "    | Black-throated Green Warbler | 20                                                                 |
| "    | Maryland Yellow-throat       | 7 and 11                                                           |
| "    | Kingbird                     | 6                                                                  |
| "    | White-throated Sparrow       | 6                                                                  |
| "    | Wood Pewee                   | 8                                                                  |
| "    | Cedar Waxwing                | 4 and 8                                                            |
| "    | Bluebird                     | 15                                                                 |
| "    | Bay-breasted Warbler         | 16 and 13                                                          |
| "    | Magnolia Warbler             | 7                                                                  |
| "    | Black-throated Green Warbler | 14 and 12                                                          |
| "    | Olive-backed Thrush          | 7                                                                  |
|      | Average =                    | 17 yards                                                           |

Of course there are many birds that actually sing on the nest itself, such as Purple Finches, Rose-breasted Grosbeaks and some of the Vireos, to say nothing of others which, like the Tree Swallows, do so on and at the entrance to the nesting boxes, as well as Barn Swallows, which sing as they fly in and out of the barn and on the rafters. Many others again, such as Kingbirds for example, make use of the nesting tree to constantly perch in, whilst others will be found singing from it also.

Now in order to illustrate my 'modus operandi,' I propose to give an account of the finding this season (1918) of a Blackburnian Warbler's (*Dendroica fusca*) nest, as well as the one of the Bay-breasted Warbler (*Dendroica castanea*) already referred to. As regards the former, the male had been noted during the migration time as always occupying a certain little belt of spruce and fir trees, on the outskirts of a large wood, and close to a country cross road, and as he was still there after the bulk of the migrants had gone, I came to the conclusion that it was about time to pay special attention to him.

I therefore on June 10 repaired to the site, having already noted one particular tree that he seemed to favor most for his vocal performances. From this tree I measured out twenty yards to the north, south, east and west of it, marking the spots with rough stakes, hoping sooner or later (it is more often than not the latter) to discover the nest within the magic circle. After having done this the next thing I always do is to inspect the ground carefully within the area of the stakes, in order to find out what likely spots (one gets to know these by experience) are dominated by the 'singing tree.' In this particular instance the most likely one seemed to lie to the north, although I rather favored one to the east, from having previously seen the male take that direction on several occasions when leaving the singing tree. However, one can never be sure, and the only way is to watch the male's every movement. This I proceeded to do for the next two hours, with very little result, as he merely kept flitting round about the magic circle whilst ever and anon singing from a few special trees. However, the critical moment came at last, as a downward swoop, so to speak, of his, into a spruce tree to the north brought out the female. I at once made for this tree, mentally congratulating myself that the nest was as

good as found. Careful scanning with the glasses however revealed nothing, nor did a climb produce any better results; so I was perforce obliged to commence the tiring business of watching the actions of the male once more. These however are varied and interesting and the least significant may often lead to unexpected results. For instance, be careful to note in what direction he usually faces when in the 'singing tree,' as this may give some clue to the nesting site. Now in this case it was to the east and notwithstanding his downward swoop to the north, I felt convinced that the nest would eventually be found in the former direction (for the reasons already given), so when after nearly another two hours of weary watching, he at last made another of those telltale swoops, and this time to the east, and the female again appeared, I thought my troubles were surely at an end, and the nest was at last within my reach. Nothing of the kind apparently, for on training the glasses onto the spot (somewhat carelessly it must have been, owing no doubt to being over-tired) no signs of a nest could be seen, and as it was then past noon, I left for home and some dinner, much disgusted with my ill luck. An hour later, however, found me on my way back, with the intention of overhauling that tree more carefully, and perhaps climbing it. The latter however was not necessary, for on approaching it, much to my surprise and pleasure I noticed the female on the ground under it. This of course raised my suspicions, and I watched her carefully until she went at length to the very spot on the branch, some fifteen feet above the ground, that the male had swooped to, and remained there a short time.

Upon her leaving, I had another good look at the spot through my glasses, and sure enough there seemed to be the faintest indication of the outlines of a nest, so faint however that I had failed to notice it in the morning, and even now could hardly make up my mind until the female had been seen to go to it again several times. Thus after some five hours' hard work the goal had been reached, and it lay within the magic circle at eighteen yards from the 'singing tree.'

Now it must not be imagined that during all those hours I had the male constantly under observation, an impossibility with a warbler, as often when singing he would suddenly cease, cock his head on one side, peer down into the undergrowth, and then sud-



denly make off, and I knew by this that he had probably observed the female and was after her; but as often as not I was in the opposite direction, and was unable to follow them quickly enough to obtain their exact whereabouts, and often the male was not seen again for some considerable time. During such intervals I search all the likely looking spots and incidentally often come across the nests of other birds (as will be seen hereafter) the males of which had been noticed in the same places from time to time during my long enforced periods of watching.

The Blackburnian is certainly a great singer, or at least I should say persistent one, for the song cannot by any stretch of the imagination be said to be great. During my long acquaintance with this one he sang off and on for most of the time, and I have noticed the same thing to occur with others that I have watched for shorter periods. The nest contained a full set of four eggs on June 18.

And now for the afternoon of June 24, a record one in many ways, for besides being the first occasion on which I had ever seen a Bay-breasted Warbler (*Dendroica castanea*) here in the summer, I had also the pleasure of finding its nest and eggs, and thus being able to add it to my breeding list, to say nothing of the nests of a Black-throated Green Warbler (*Dendroica virens*), and Magnolia Warbler (*Dendroica magnolia*) that also fell to my lot, as well as one of an Olive-backed Thrush (*Hylocichla ustulata swainsoni*), thus constituting a record for my system for a period of about four hours.

Now to begin with I was on my way to the Cape May Warbler ground, to reach which I had to pass within some two hundred yards or less of the site of the nest of the Blackburnian Warbler already described, when my attention was drawn to a song that puzzled me. It seemed similar to that of a Blackburnian except that it was sometimes given in two keys, and seemed to be generally louder. On looking in the direction from which it came I espied much to my astonishment in the topmost (dead) branches of a birch tree a fine male Bay-breasted Warbler (*Dendroica castanea*). To say that the Cape May was forgotten is putting it somewhat mildly, as I never even gave him a thought again that afternoon, so elated was I at finding a singing male of this rarity, and thus

being able to further test the reliability of my system. Having watched him for some time and convinced myself that the birch tree was really the favored one (although there was a tall hemlock with dead branches also not far off, which was almost equally used), I proceeded to measure off the prescribed distance as already indicated. This being done and the ground, which was truly a warbler one, inspected, I noticed that on the eastern side the trees were taller than the birch or 'singing tree,' and therefore the latter did not dominate this part of the circle, and in all probability the nest would not be there. In passing, it may be well to mention that the 'singing tree' does not always necessarily dominate the nesting one, although I have generally found it to do so, an exception being that of a male Purple Finch (*Carpodacus purpureus purpureus*) who sang from an apple tree on the opposite side of the spruce tree in which the nest was placed, but in this case there were no trees overlooking the nest at all. Surely the male had no voice in selecting that site (although he undoubtedly did the 'singing tree,' as he had frequented it often previous to any nest being started in the spruce), invisible as it was to him whilst singing! But there, that opens up another interesting problem, and I must get back to the work in hand. After watching the male Bay-breast for some time, I noticed that he generally faced either north or south, whilst in the two 'singing trees,' more generally the latter, and I concluded that somewhere in that direction the nest would eventually be found, as it was an absolutely ideal spot. Now in the lower branches of the hemlock tree a male Magnolia Warbler ventured to sing on several occasions, but was always driven away by the Bay-breasted Warbler. This looked suspicious and I overhauled the firs and spruces in close proximity, with the result that the female Magnolia was flushed from her nest and set of four eggs only seven yards away from where the male had attempted to sing.

Time was flying fast, however, and still no signs of the female Bay-breasted Warbler, until a sudden downward swoop of the male to the south, brought her out to the east, and I was able to follow her about for a short time, until she eventually gave me the slip. Then I began to search the southern site more carefully, from which direction I had also just previously heard some Thrush-like



notes proceeding from a tall maple tree; and it was not long before I flushed the female Olive-backed Thrush (already referred to) from her nest and four eggs, which were situated in a small hemlock tree only seven yards from where the male had been heard.

At that supreme moment I was only eight yards from the nest of the Bay-breasted Warbler yet failed to detect it. Then I worked round to the west, where a Black-throated Green Warbler was singing from the top of a tall elm tree, and later on the female was flushed from her set of four eggs, just fourteen yards from the 'singing tree' of the male. At any other time three nests and two of them Warblers in three hours, I should have considered as out of the common, but in the present instance I paid no attention to the matter whatever, my thoughts all being centred on the greater prize.

The best part of another hour however went by and still no results, so I decided to have another good look to the south, as the actions of the male convinced me the nest was in that direction. Incidentally also I wanted to get the particulars relating to the nest of the Olive-backed Thrush, and it was whilst engaged with this that a bird flew to the back of me and alighted in a small fir tree. Turning sharply round I noticed she was the female Bay-breasted Warbler, and almost directly she went to her nest, notwithstanding that I was in full view of her and only eight yards away. The nest was in the top of a small fir tree, nine feet from the ground and three feet from the top of the tree, and placed close against the trunk. It contained a set of four slightly incubated eggs. I had passed it several times that afternoon without noticing it, but no one familiar with the nests of warblers will be surprised at this admission. So beautifully do they seem to blend with their surroundings that they seem to be part and parcel of them, and it is no easy matter sometimes to detect a nest, although comparatively in an exposed position as this one was. It was just five-thirty P. M. when I found it, and within the magic circle too, it being exactly sixteen yards from the 'singing tree' of the male, which I first noticed at one-thirty P. M., so that I had spent exactly four hours with this bird, during which time he sang almost continuously, with only short intervals of rest in between. This species as well as the Blackburnian and Black-throated Blue

(*Dendroica carulescens carulescens*) in my experience are certainly incessant singers, but the Black-throated Blue differs in many respects from the other two, as he seems to affect denser foliated trees, and usually sings higher up and is what one might call not a home bird, as I have generally found him to sing much further away from the nest than any of the other Warblers. Still in his case if you are familiar with the sites usually selected for nesting, the 'singing tree' or trees will always give you a clue; the only thing you must do is to be somewhat more elastic with regard to the magic circle. In the case of a nest I found this year I could see from the nature of the ground beneath the 'singing trees' that a radius of twenty yards failed to bring me within any site at all likely to hold a nest, the ground being much too open; but by doubling this distance I came within some very dense undergrowth, and this I knew from experience was just the very sort of ground a female Black-throated Blue Warbler would be likely to select. I therefore measured out forty yards, but even this was not quite enough, for the nest was eventually found at fifty yards from the nearest 'singing tree,' and ninety yards from the furthest. I mention this case in order to show that there are times when experience and a little common sense must be displayed if good results are to be expected.

In conclusion it may be stated that in the case of birds that sing in the air such as Prairie Horned Larks, I have found their nests by constantly noticing the male frequenting a certain observation post, usually consisting of a large stone or boulder, although in one case it was actually a tree (see 'Auk,' vol. XXXIII, 1916, p. 285), and from there measuring out the required distance and then walking quietly over the ground, looking well ahead for the female to slip off the nest. Of course it may be necessary to repeat this proceeding several times before she is eventually found at home, but in the meantime there is always the off chance of the nest being discovered quite irrespective of the female whilst quartering the ground. This method can be adopted equally well with Spotted Sandpipers (*Actitis macularia*) as I found two nests, one in 1914 and the other in 1915, the observation post of the male in each case being a heap of stones in a field adjoining 'the marsh.'